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ABSTRACT

The mortality experience of the AFL-CIO United Brotherhood of Carpenters and Joiners of America members was examined to determine current mortality patterns in a large wood-exposed population and a possible wood-cancer relationship. The data consisted of union members' mortality data (death claims and non-claim deaths) from 1971-1973 along with data from a published report of 1969-1970 member deaths. Expected and observed death rates were calculated and the mortality was expressed as standard mortality ratios (SMR). The overall mortality of union members is favorable. Among younger workers, elevated rates were found of job-related accidental deaths due to falls, falling objects, and electrocution. The findings regarding cancer mortality rates in the various union trades show the following patterns: elevated rates of lung cancer in acoustical tile applicators and insulators, probably related to asbestos exposure; elevation of gastrointestinal cancer rates among pile drivers; excess of lung, stomach and bladder cancer among locals in some urban areas; excess of lung cancer among union locals in the southeastern states; and excess hematopoetic cancers among wood-machining trades and plywood mill workers. (This report includes tables and figures which provide detailed mortality data for ninety-five causes-of-death groupings by trade, union locals, and geographic area.) (EM)

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MORTALITY EXPERIENCE OF THE AFL-CIO UNITED BROTHERHOOD OF CARPENTERS AND JOINERS OF AMERICA 1969-1970 and 1972-1973

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ABSTRACT

The mortality experience of the members of the AFL-CIO United Brotherhood of Carpenters and Joiners of America was determined for four years during the 1969-1973 period. Expected and observed rates were calculated, and the mortality was expressed as standard mortality ratios (SMR). Data from two additional years was added to that given in HEW Publication No (NIOSH) 74-129. Detailed mortality data is given for 95 cause of death groupings, by trade, by union locals, and by geographic area. Elevated rates of job related accidental deaths were found mainly among younger workers, and were mostly the result of falls, falling objects, and electrocution. Elevated rates of lung cancer and mesothelioma among some trades are probably related to asbestos used in building insulation. No specific carcinogenic exposure is known which can explain (a) elevation of gastrointestinal cancer rates among pile drivers, (b) excess of lung, stomach and bladder cancer among locals in some urban areas, (c) excess of lung cancer among union locals in the southeastern states, and (d) excess hematopoietic cancers among wood machining trades and plywood mill workers. Further investigation of these findings is warranted.
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BACKGROUND

In a study of New York State Death Records[1], I showed that men dying of Hodgkin's disease more often had a wood-exposure occupation reported on their death certificates than did a matched control group.

From tumor registry data (not necessarily deaths), Acheson and co-workers[2] reported an excessive risk of adenocarcinoma of the nasal cavity and sinuses among woodworkers in the furniture industry in the Oxford Hospital region of England. Subsequently, a similar excess was demonstrated in other parts of England[3]. A recent U.S. study has also linked nasal cancer to wood-working occupations[4]. Another British group trying to explain the high incidence of nasopharyngeal tumours in South Chinese have found agents in the smoke of Chinese sandalwood incense which previously have been shown to be carcinogenic for mice and rats[5]. A Danish study reported that adenocarcinoma of the nasal cavity, inflammation of the middle ear, frequency of colds, and nasal mucostasis were all associated with exposure to wood dust.[6] Also, in a fortuitous observation, cedar shavings was shown to be carcinogenic for mice[7].

Dublin and Vane[8], in an analysis of mortality of policy holders of the Metropolitan Life Insurance Company for the years 1922-1924, showed that carpenters had the highest cancer mortality of the 33 occupational groups studied, with furniture and other woodworkers fifth highest. In a similar analysis of 1937-1939 data[9], furniture and woodworking factory operatives were sixth and carpenters and cabinet makers tenth in cancer mortality of 61 occupational classes with a reported mortality figure. Harrington and co-workers recently reported a two to three fold increase in risk of lung cancer among wood, paper and construction workers in selected coastal areas of Georgia[10], on the basis of a death certificate study.

U.S. and English vital statistics shed little light on the issue. Both use the standardized mortality ratio as an analytic tool. In the English data[11], cabinet makers, coopers and hoopmakers are the only classes of woodworkers with an SMR increase for all cancers. The lung cancer SMR is 132 in cabinet makers, while coopers have an SMR for stomach cancers of 167. Papermakers show a high stomach cancer SMR of 141. The occupational classes with the majority of woodworkers, carpenters and joiners, and sawyers and wood machinists, show no remarkable SMR deviations.

U.S. statistics[12] for carpenters age 20-64 show a favorable overall mortality (SMR 84), due primarily to a favorable cardiovascular disease mortality. Cancer mortality is nearly at the all U.S. white male level, and certain cancers show a significantly elevated mortality.

To examine the current mortality patterns in a large wood-exposed population, and to shed further light on the possible wood-cancer relationship, I enlisted the cooperation of the AFL-CIO United Brotherhood of Carpenters and Joiners of America in a study of the mortality of their members. In 1970, the union had nearly 700,000 active and retired members. Counts of membership by age, residence, trade and union local were available for use as denominators. The union also has a death benefit plan which requires submission of a death certificate before a modest death benefit is paid. For nearly 80% of all member deaths, a death claim was filed which contained a death certificate.

A preliminary study of 1967 member deaths was done with the death claims on file at the national union headquarters in Washington D.C. A sample of non-claim deaths indicated that they were distributed very differently by age and cause of death (higher proportions of young men and accidental causes). I, therefore, decided to study 2 years of member deaths including both death claims and non-claim deaths. Non-claim deaths for 1969 were not available in readily accessible form, so 1971 non-claim deaths were substituted.

Death records available through Union Headquarters as a part of the member's death claim were abstracted. Death certificate information for those members who died without submitting death claims was obtained by writing to the states, or by personally abstracting the pertinent death information. Total ascertainment of cause of death for known deaths for the study was 97.3%.

New York City death information presented a special problem. No annual death index was available for recent years, so an alphabetical search of a punch card file for each New York City borough was performed. There is approximately a 10% underascertainment of cause of death for this one region.

Information collected for each member death was: age, occupation, cause of death, residence and union local number. Cause of death was coded by the nosologist of the Washington State Department of Social and Health Services using the International Classification of Diseases, eighth revision.

Denominator data was provided for 1970 U.B.C.J.A membership in the following tables:

1. members by age by local
2. members by age by local by state
3. members by age by local by trade

Racial data was not available.

The trades covered by the union are:

Carpenters and Joiners
Millwrights
Pile Drivers, Bridge, Dock and Wharf Carpenters, Divers, Underpinners, Timbermen and Core Drillers
Shipwrights, Boat Builders, Ship Carpenters, Joiners and Caulkers
Cabinet Makers, Bench Hands, Stair Builders, Millmen
Wood and Resilient Floor Layers and Finishers
Carpet Layers
Shinglers
Siders
Insulators
Acoustic and Dry Wall Applicators
Shorers and House Movers
Loggers, Lumber and Sawmill Workers
Furniture Workers, Reed and Rattan Workers
Shingle Weavers
Casket and Coffin Makers
Box Makers, Railroad Carpenters and Car Builders

The standardized mortality ratio was used as the prime analytical method.

$$SMR = \frac{\text{Observed Deaths}}{\text{Expected Deaths}} \times 100$$

SMRs are underlined when observed and expected deaths are statistically, significantly different ($X_1^2 > 3.84$; $P < .05$). Statistical testing was not done on observed frequencies of 5 or less.

For those detailed causes of death with no published age sex-specific mortality rates, rates were calculated from U.S. death and census data for 1968 and 1972.

Major analyses of mortality were done for:

a. All union members
b. Sub-trades
c. States, selected regions and union locals

An analysis of 1969 and 1970 deaths was published by NIOSH in 1974[13]. When two more years of carpenters union mortality data became available, I decided to replicate the study to increase sample size and to corroborate the findings of the first study.

The methods used were identical to those of the 1969-1970 study. Death claim and non-claim deaths for 1972 and 1973 were added to the 1969 and 1970 data and analyzed as before.

The study reported here consists of the following member deaths.

Year	Death claim	Non-claim death
1969	X	
1970	X	X
1971		X
1972	X	X
1973	X	X

This represents four complete years of member deaths (32,707).

Expected deaths in Tables 1 and 2 were computed using published 1972 U.S. age and sex specific mortality rates for the 1972 and 1973 data. These were then added to the 1969 and 1970 expectations. Expected deaths were obtained in the remaining tables by doubling the 1969 and 1970 expectations because detailed populations at risk were not available by trade. This was due to a union coding change since the first study; consequently the first study of populations at risk were used. Little error would be expected from this use of 1969 and 1970 data.

RESULTS AND DISCUSSION

General Mortality

The major mortality patterns seen in the earlier study are again seen. The overall mortality of union members is quite favorable (Table 1). The all causes standardized mortality ratio (SMR) is 80.7, due primarily to low SMRs for non-accidental and non-cancer causes of death. This causes the proportion of deaths due to cancer to be higher for union members than it is for U.S. white males (figure 1). The low all causes SMR is due in part to selection of healthy workers into the union, but there probably also is a selective termination and lack of ascertainment of men who ultimately will have higher mortality rates. The longer a worker belongs to the union, the greater the likelihood that he will remain a member. This probably accounts for some of the increase in SMRs seen with age.

Table 2 shows mortality for 95 cause-of-death groupings in ICD order.

High mortality rates are seen for work-related accidental deaths, especially in younger men. As expected, in certain accidental death cause groups, nearly all deaths occurred at work (E881, fall on or from ladders and scaffolding; E882, fall from or out of building or other structure, other fall from one level to another; and E916, struck accidentally by falling object.)

In cause group E881, almost all deaths were due to falls from scaffolding. In cause group E882, most deaths were due to falls from the roof.

Accidental electrocution (ICD E925) on the job showed an SMR elevation. These deaths were of two general types: contact with high tension lines through cranes or metal ladders and electrocution by contact with defective power tools (drills and saws).

Work-related accidents show highest SMRs in younger workers. A five-fold excess in deaths is seen in the youngest age classes.

Mesothelioma of the pleura (ICD 163.0) shows an SMR of 181.8. This is not surprising since union members have considerable exposure to asbestos in various building operations.

Hodgkin's disease (ICD 201) shows an overall SMR of 92.5, but in men over age 60 at death, the SMR is 160 (expect 25.4 deaths, observe 40). Since Hodgkin's disease shows a bimodal age incidence curve, this would suggest that the older mode is etiologically different from the younger and may be partly occupational in origin.

Lymphosarcoma (ICD 200.1) and the lymphatic leukemias (ICD 204.0-204.9) show SMR elevations in men dying under age 50, in contrast to the Hodgkin's age pattern. The age and cell-type variation in SMR for these cancers suggest that current pathologic classifications may lump etiologically dissimilar diseases.

Cancer of lung (ICD 162.1), stomach (ICD 151), small intestine (ICD 152) and prostate (ICD 185) all show small elevation of SMR. Since construction workers are at risk of inhaling and ingesting carcinogens, the lung and upper gastrointestinal tract cancer might be expected to show increases. The prostatic cancer increase is harder to explain.

The lung cancer excess could be related to cigarette smoking habits of carpenters. However, a study of the relationship of smoking habits and occupation (Sterling, etc.)[2] indicates that U.S. carpenters do not smoke excessively when compared to other working men. Smoking on the job while engaged in construction tasks is difficult to accomplish.

Cancers of the sinuses and nasal cavities (ICD 160) show a very low SMR and therefore do not support the observations made in Europe[2,3,6]. However, since ICD coding fails to distinguish adenocarcinomas from other pathologic types, a real excess of adenocarcinomas might be obscured.

British furniture workers are exposed primarily to hardwoods, especially the European Birch. U.S. construction workers are exposed mainly to softwoods, especially Douglas Fir. If, however, U.S. furniture workers had nasal carcinomas at the same rates seen in Britain, it is difficult to see how this fact could be missed in this study.

Figure 2 shows the pattern of SMRs for all causes of deaths and for cancers by age. The all causes SMR is high for men under age 25 because of accidents. It then drops to a low at age 45 and rises gradually to a peak at age 80-85. The cancer SMR starts at a low level and rises gradually until SMRs over 100 are seen in age classes 70-74 and above.

This pattern is probably due to a number of factors. The nature of the work requires initial selection of healthy active men. The active, strenuous work pattern may confer protection from cardiovascular disease during the middle years. Cancers caused by environmental agents usually have long latent periods, so most of the high cancer SMRs show up over age 65.

Since general mortality figures were used to determine expected numbers of deaths, and since there is undoubtedly some underascertainment of deaths in union members, many of the SMRs for union members will be understated. Canadian member deaths are underascertained compared to U.S. member deaths, especially for non-accidental causes of death, but since Canadian deaths make up only 4.5% of all deaths, they do not bias the file significantly.

B. Trade Breakdown

Table 3 shows the all causes and cancer mortality by trade for union members. Sixty-nine percent of the U.B.C.J.A. members belong to construction worker locals, with no other trade type making up more than 10% of the membership.

a. Construction workers have a low all causes SMR and a slightly elevated cancer SMR. The elevated cancer SMR is due primarily to a lung cancer SMR of 118 (expect 1,642 deaths, observe 1,934). The leukemia-lymphoma SMR (ICD number 200-209) is 97 with 534 deaths expected and 523 observed.

b. Acoustical tile applicators and insulators have a known exposure to asbestos fibers and have an increased expectation of mesotheliomas and respiratory cancer[15]. The all causes SMRs for the two trades are low and the all cancer SMRs are about 150. The excess cancer SMRs are due primarily to an increased incidence of lung cancer (SMR = 250, 8 cases observed to 3.2 expected).

There were a total of 27 deaths in these two trades. Fourteen of the 27 deaths (52%) were due to cancer.

c. Millwright locals have a mortality pattern similar to that of construction workers with a low total mortality and a slightly increased cancer mortality. The millwrights show a lung cancer SMR of 133 (51.2 deaths expected to 68 observed). The leukemia-lymphoma group cancers have an SMR of 89 in spite of an increased SMR for multiple myeloma of 306 (1.96 deaths expected to 6 observed). In fact, of the 14 leukemia-lymphoma deaths which occurred in millwright locals, 6 were due to multiple myeloma.

d. Pile drivers show a moderate cancer increase (SMR 126.9). Table 4 shows that the increase is due mainly to increased mortality from lung and gastrointestinal cancer. Lung cancer shows an SMR of 136.6; Cancer of the pancreas shows an SMR of 157.7, while stomach cancer shows an SMR of 132.1.

The pattern of cancer excess in pile drivers suggests exposure to carcinogens which are both ingested and inhaled, or swallowed after inhalation.

e. Ship carpenters locals have an SMR pattern for total mortality and cancer like the construction worker locals. No remarkable increase in any cancer type is seen.

f. Millmen and Lumber and Sawmill workers locals have low SMRs for both all causes and cancer. However, both groups have relative elevations in SMR for various leukemia-lymphoma groups. The all cancer SMR is only 79.5, but lumber and sawmill workers locals have an SMR for causes 200-209 (leukemia-lymphomas) of 101 (44.5 deaths expected to 45 observed). This compares to a lung cancer SMR of 76 (135.0 cases expected to 110 cases observed).

Millmen also have a low lung cancer SMR of 73 (158 deaths expected to 116 observed) but have elevated SMRs for leukemia (106) and multiple myeloma (115) based on 18 leukemia deaths and 6 myeloma deaths observed.

g. Cabinet makers show low SMRs for all causes and for all cancers. However, the leukemia-lymphoma group SMR is 102 (expect 10.8 deaths, observe 11) which is consistent with the relative excess SMRs seen in other wood machining trades. Cabinet makers, millmen, millwrights, lumber and sawmill workers, and plywood workers all have small leukemia or myeloma excesses.

h. Furniture workers have unremarkable SMRs for total mortality and for cancers. The lung cancer SMR is 97 (expect 30 deaths, observe 29) but no increase is seen in SMRs for nasal cavity and paranasal sinuses, however, the number of deaths involved is small.

i. Plywood workers have an SMR for leukemia-lymphoma group cancers of 167 (expect 4.2 deaths, observe 7). This agrees with the findings in Washington plywood workers[16].

j. Other trades involved numbers of deaths too small for detailed cause breakdowns.

Geographic Breakdown

Breakdown of mortality pattern by geographic area is really an analysis of the distribution of the various trades and locals by geographic area.

Lumber producing areas like the Northwest, West and Southeast will have a high proportion of lumber and sawmill workers locals among total membership and will therefore carry their mortality patterns. In states with small populations at risk, one or two large locals with unusual mortality patterns will cause the state to have the same pattern.

The overall state cancer SMR pattern for union members is shown in Table 5. In general, an elevation of cancer SMR in a state is due to an elevated lung cancer SMR. Figure 3 shows those states with a 25% or greater increase in lung cancer SMR (SMR > 125). A concentration of high lung cancer SMRs is seen in states in the Southeastern U.S. I am unaware of any regional differences in smoking habits which could account for this lung cancer excess.

Within states, there is considerable variation in mortality patterns. Table 6 shows cancer SMRs for New York City versus the rest of the state. Lung cancer and stomach cancer SMRs are similar in both places with a considerable elevation of stomach cancer rates (SMRs 159 and 128, respectively).

Cancer of the urinary bladder has an elevated SMR in New York City locals but not in the rest of the State. SMRs for the New York City locals are understated by about 10% because of difficulty in locating New York City death records. Since the exposure of workers in New York City construction locals are undoubtedly different than those of workers in small upstate locals, the observed differences are not surprising.

Actually, the geographic mortality analysis which makes most sense epidemiologically, in the available data, is analysis by local. Unfortunately, the population at risk in the average local is too small to yield enough deaths over a four-year period for a detailed mortality analysis. Nearly all locals with high cancer SMRs in the first study had normal or only slightly elevated SMRs when two more years of data were added. This change was presumably due to the stabilizing influence of larger numbers.

SUMMARY

This study has identified a number of problem mortality areas among U.B.C.J.A. Union members and is consistent with the hypothesis that wood contains carcinogens. Accidental falls, especially in young members, account for most of the elevated SMRs seen in young members. Accidental electrocution on the job also shows excess mortality.

The non-cancer causes of death have uniformly low SMRs. This is usually the case when general population figures are used to compute expected deaths.

The most interesting associations found in this study are cancer mortality patterns seen in the various trades covered by the union.

1. Excess lung cancer mortality in acoustical tile applicators and insulators probably related to asbestos exposure.

2. Excess gastrointestinal cancer (stomach and pancreas) in pile drivers, as well as a lung cancer excess.

3. Excess lung and stomach cancer in construction workers locals with greater excesses seen in major urban areas. Cancer of the urinary bladder shows an excess in New York City locals.

4. Geographically, 21 states show a 25% or greater excess of lung cancer for grouped locals. Most state excess cancer SMRs can be accounted for by increased lung cancer SMRs. There is a concentration of nigh lung cancer SMRs in the southeastern states.

5. Wood machining trades have a relative excess of hematopoietic cancers.

RECOMMENDATIONS

1. Those mortality excesses which are most serious from a numerical point of view are job-related accidents and lung cancer.

   a. Accidental falls from scaffolding could be prevented or minimized by use of scaffolding with safety railings or by use of some sort of safety harness or line.

   b. Accidental electrocution could be reduced by use of non-conductive ladders and by engineering cranes so the cab and controls are electrically isolated from the boom.

2. The lung cancer excess is almost certainly related to inhaled carcinogens. On the job dust control, masks and other ventilatory control strategies could reduce the excess.

   Observations of work practices in large Florida or Texas construction locals might be revealing since these areas have a sizable lung cancer excess.

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Table 1

United Brotherhood of Carpenters and Joiners of America
1969-1970 and 1972-1973 deaths
Standardized mortality ratios for selected causes of death

Cause of Death	ICD 8th Rev. Codes	Deaths		SMR	SMR U.S. Carpenters 1950*
		Expected	Observed		
All causes	all	40,525	32,707	80.7	84
Major cardiovascular diseases	390-448	21,901	17,033	77.8	81
Malignant neoplasms	140-209	7,589	7,171	94.5	97
Cerebrovascular diseases	430-438	3,303	2,505	78.3	74
Accidents	800-949	2,319	2,406	103.8	102
All other causes		5,413	3,592	66.4	

* Mortality by occupational level and cause of death, men age 20-64, U.S. 1950 Vital Statistics Special Reports, Vol. 53 #5, Sept., 1963.

Table 2
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD Number / Cause of Death	All Causes			010-019 Tuberculosis, all forms			140-209 Malignant Neoplasms, including neoplasms of lymphatic and hematopoietic tissue		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	291.1	383	131.6	0.1			17.3	13	75.1
25-29	408.1	360	88.2	0.2			33.3	23	69.1
30-34	466.7	432	92.6	0.8			47.4	39	82.3
35-39	672.3	468	69.6	1.6			89.9	67	74.5
40-44	1,219.3	814	66.8	3.9			190.1	156	82.1
45-49	2,296.8	1,560	67.9	8.8	5	56.8	410.0	350	85.4
50-54	3,365.7	2,443	72.6	13.5	1	7.4	685.9	618	90.1
55-59	4,660.0	3,274	70.3	16.7	11	65.9	1,051.4	941	89.5
60-64	5,682.1	4,091	72.0	18.9	8	42.3	1,280.0	1,141	89.1
65-69	5,288.0	4,349	82.2	16.0	6	37.5	1,162.2	1,156	99.5
70-74	5,179.0	4,287	82.8	14.9	6	40.3	1,033.2	1,041	100.8
75-79	4,981.1	4,438	89.1	12.3	6	48.8	861.3	874	101.4
80-84	3,554.1	3,413	96.0	7.7	6	77.9	493.6	504	102.1
85+	2,460.3	2,395	97.3	4.5	1	22.2	233.6	248	106.1
TOTAL	40,524.5	32,707	80.7	119.9	50	41.7	7,589.8	7,171	94.5

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	140-149			150-159			160-163		
Cause of Death	Malignant Neoplasms of Buccal Cavity and Pharynx			Malignant Neoplasms of Digestive Organs and peritoneum			Malignant Neoplasms of respiratory system		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.3			1.3	4	400.0	0.5		
25-29	0.4			2.9	2	69.0	1.2		
30-34	0.5			7.1	3	42.3	4.8	5	104.2
35-39	1.4	2	142.9	16.7	11	65.9	20.5	15	73.2
40-44	5.2	7	134.6	39.2	37	94.4	66.0	52	78.8
45-49	14.6	10	68.5	95.5	62	64.9	159.6	157	98.4
50-54	29.2	22	75.3	167.1	150	89.8	276.7	262	94.7
55-59	45.0	18	40.0	273.5	227	83.0	423.1	415	98.1
60-64	46.5	23	49.5	340.8	289	84.8	513.7	473	92.1
65-69	35.4	30	84.7	323.6	300	92.7	432.8	445	102.8
70-74	24.2	14	57.9	300.1	264	88.0	335.6	367	109.4
75-79	18.7	8	42.8	272.0	268	98.5	223.3	248	111.1
80-84	11.4	10	87.7	163.3	158	96.8	91.7	97	105.8
85+	6.2	3	48.4	77.7	82	105.5	29.1	27	92.8
TOTAL	239.9	147	61.3	2,080.5	1.857	89.3	2,579.7	2,563	99.4

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973.

ICD number	147			150			151		
Cause of Death	Malignant neoplasm of nasopharynx			Malignant neoplasm of esophagus			Malignant neoplasm of stomach		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.1				2		0.1		
25-29	0.2			0.1			0.5		
30-34	0.1			0.4			0.9		
35-39	0.4	1	250.0	0.7	1	142.9	2.5	4	160.0
40-44	0.6			2.6			6.6	7	106.1
45-49	3.2			9.4	2	21.3	16.2	12	74.1
50-54	3.3	4	121.2	18.6	8	43.0	29.2	30	102.7
55-59	4.3	2	46.5	28.8	29	100.7	42.2	44	104.3
60-64	3.8	4	105.3	35.4	21	59.3	56.0	65	116.1
65-69	2.6	3	115.4	28.0	24	85.7	53.8	56	104.1
70-74	1.8	1	55.6	22.5	20	88.9	54.8	56	102.2
75-79	1.5	2	133.3	16.0	15	93.8	51.8	64	123.6
80-84	0.4			8.3	9	108.4	33.5	52	155.2
85+	0.2			4.4	2	45.5	15.7	17	108.3
TOTAL	22.5	17	75.6	175.2	133	75.9	363.8	407	111.9

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	152			153			154		
Cause of Death	Malignant neoplasm of small intestine, including duodenum			Malignant neoplasm of large intestine, except rectum			Malignant neoplasm of rectum and rectosigmoid junction		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24				0.4			0.1		
25-29				1.5	1	66.7	0.2		
30-34	0.1			3.2	2	62.5	0.8		
35-39	0.3	1	333.3	6.1	3	49.2	1.7		
40-44	0.7	1	142.9	13.4	15	111.9	4.3	2	46.5
45-49	1.3	2	153.8	30.2	14	46.4	9.9	8	80.8
50-54	1.6	1	62.5	53.2	43	80.8	18.4	22	119.6
55-59	1.9	1	52.6	81.7	60	73.4	29.3	29	99.0
60-64	2.3	3	130.4	107.0	79	73.8	37.2	37	99.5
65-69	2.4	4	166.7	106.6	87	81.6	36.5	26	71.2
70-74	1.7	0	---	107.8	84	77.9	34.7	32	92.2
75-79	1.5	1	66.7	99.8	92	92.2	29.8	30	100.7
80-84	0.6	1	166.7	62.9	50	79.5	19.7	18	91.4
85+	0.3	0		29.0	38	131.0	10.3	12	116.5
TOTAL	14.7	15	102.0	702.8	568	80.8	232.9	216	92.7

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Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	155.0			156.0			156.1		
Cause of Death	Malignant neoplasm of liver			Malignant neoplasm of gallbladder			Malignant neoplasm of extrahepatic bile ducts		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.2								
25-29	0.3			0.1			0.1		
30-34	0.3								
35-39	0.5	1	200.0	0.2			0.2		
40-44	1.0	1	100.0	0.4			0.3	1	333.3
45-49	2.5	2	80.0	1.1	1	90.9	1.0		
50-54	5.5	5	90.9	2.9	5	172.4	2.1	1	47.6
55-59	8.2	2	24.4	5.1	3	58.8	3.1	4	129.0
60-64	9.6	4	41.7	5.9	4	67.8	3.7	2	54.1
65-69	10.0	5	50.0	7.5	3	40.0	3.7	3	81.1
70-74	7.6	3	39.5	7.9	2	25.3	3.8	2	52.6
75-79	5.7	2	35.1	7.0	3	2.9	3.6	2	55.6
80-84	2.9	3	103.4	3.9	1	25.6	2.2		
85+	1.1	1	90.9	2.1	1	47.6	0.9		
TOTAL	55.4	29	52.3	44.1	23	52.2	24.7	16	64,8

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973.

ICD number	157			160			161		
Cause of Death	Malignant neoplasm of pancreas			Malignant neoplasm of nose, nasal cavities, middle ear and accessory sinuses			Malignant neoplasm of larynx		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24									
25-29	0.2			0.3					
30-34	1.0	1	100.0	0.2	1	500.0	0.1	1	1000.0
35-39	3.9	1	25.6	0.5	0		0.2	0	
40-44	8.5	10	117.6	1.2	1	83.3	1.8	2	111.1
45-49	20.9	20	95.7	1.4	0		5.8	4	69.0
50-54	39.3	29	73.9	2.0	1	50.0	12.3	10	81.3
55-59	58.2	52	89.3	2.9	1	34.5	20.4	6	29.4
60-64	73.6	67	91.0	3.9	2	51.3	23.5	9	38.3
65-69	68.6	85	123.9	3.0	2	66.7	17.6	10	56.8
70-74	60.8	62	102.0	2.6	1	38.5	13.8	11	79.7
75-79	50.9	58	113.9	1.7	2	117.6	9.9	9	90.9
80-84	28.2	24	85.1	1.2	0		5.1	4	78.4
85+	12.6	7	55.6	0.7	0		2.0	0	
TOTAL	426.7	416	97.5	21.6	11	50.9	112.5	66	58.7

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	162.1			163.0		
Cause of Death	Malignant neoplasm of bronchus and lung			Malignant neoplasm of pleura		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.25					
25-29	0.96			0.1		
30-34	5.21	4	76.8			
35-39	18.08	13	71.9	0.2	1	500.0
40-44	57.39	50	87.1	0.3	0	
45-49	149.65	151	100.9	0.7	1	143.0
50-54	268.61	249	92.7	0.6	2	333.0
55-59	390.04	403	103.3	1.9	2	105.0
60-64	490.46	458	93.4	1.5	2	133.0
65-69	412.60	431	104.5	1.4	2	142.9
70-74	330.06	349	105.7	1.0	3	300.0
75-79	215.33	234	108.7	0.8	2	250.0
80-84	93.23	92	98.7	0.3	0	
85+	27.63	26	94.1	0.0	1	
TOTAL	2,456.50	2,460	100.1	8.8	16	181.8

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973.

ICD number	170			171			172		
Cause of Death	Malignant neoplasm of bone			Malignant neoplasm of connective and other soft tissue			Malignant melanoma of skin		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.8			0.5	1	200.0	0.8		
25-29	0.7			0.7	0		2.3	2	87.0
30-34	0.7	2	285.7	0.9	0		3.9	1	25.6
35-39	0.7	1	142.9	0.7	2	285.7	6.1	7	114.8
40-44	1.2	0		1.4	2	142.9	8.3	4	48.2
45-49	2.3	0		3.0	5	166.7	12.2	7	57.4
50-54	3.0	3	100.0	3.2	2	62.5	14.0	13	92.9
55-59	4.0	2	50.0	4.2	8	190.5	13.1	8	61.1
60-64	5.2	4	76.9	3.8	6	157.9	11.5	8	69.5
65-69	4.3	4	93.0	4.0	4	100.0	8.7	7	80.5
70-74	3.6	2	55.6	2.8	4	142.9	6.2	8	129.0
75-79	2.9	1	34.5	2.4	2	83.3	5.4	5	92.6
80-84	2.0	1	50.0	1.3	0		2.6	2	76.9
85+	1.0	2	200.0	0.7	1	142.9	1.5	0	---
TOTAL	32.4	22	67.9	29.6	37	125.0	96.6	72	74.5

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	180-187			188,189			170-173,190-199		
Cause of Death	Malignant neoplasms of genital organs			Malignant neoplasms of Urinary organs			Malignant neoplasms of all other and unspecified sites		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	2.8	1	35.7	0.2			4.8	2	41.7
25-29	5.1	2	39.2	0.2			9.7	7	72.2
30-34	4.4	6	136.4	0.7	2	285.7	14.9	12	80.5
35-39	4.1	2	48,8	2.6	0		21.1	20	94.8
40-44	3.2	3	93.8	7.3	7	95.9	36.4	22	60.4
45-49	5.4	3	55.6	18,6	11	59.1	67.8	59	87.0
50-54	12.9	15	116.3	33,3	26	78,1	97.0	94	96.9
55-59	31.0	24	77.4	53.5	46	86,0	129.2	131	101.4
60-64	62.4	58	92.9	66.6	65	97.6	142.4	160	112.4
65-69	88.8	88	99.1	67.3	76	112.9	115.8	126	108.8
70-74	115.8	117	101.0	67.7	77	113.7	94.8	105	110.8
75-79	134.1	148	110.4	59,5	59	99.2	74.4	68	91.4
80-84	102.3	110	107.5	37.0	25	67,6	40.9	50	122.2
85+	57.5	63	109.6	18.1	27	149,2	23,6	17	72.0
TOTAL	629,8	640	101.6	432.6	421	97.3	872.8	873	100.0

Table 2 (Continued)
Mortality by Selected Causes ot Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	185			186			188		
Cause of Death	Malignant neoplasm of prostate			Malignant neoplasm of testis			Malignant neoplasm of bladder		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24				2.2	1	45.5			
25-29				4.8	2	41.7			
30-34	0.1			4.2	6	142.9	0.2		
35-39	0.2			3.5	2	57.1	0.4		
40-44	0.5	1	200.0	3.0	2	66.7	1.9	1	52.6
45-49	2.9	1	34.5	3.1	1	32.3	5.0	1	20.0
50-54	10.2	13	127.5	2.1	1	47.6	12.9	4	31.0
55-59	28.2	23	81.6	1.6	0		22.2	21	94.6
60-64	61.0	56	91.8	1.3	2	153.8	35.4	32	90.4
65-69	86.6	87	100.5	1.0	1	100.0	39.2	38	96.9
70-74	112.0	115	102.7	0.7	1	142.9	45.2	50	110.6
75-79	131.7	147	111.6	0.5	1	200.0	42.1	39	96.6
80-84	104.4	109	104.4	0.3	1	333.3	28.3	18	63.6
85+	58.0	61	105.2	0.2	1	500.0	15.9	23	144.7
TOTAL	595.8	613	102.9	28.5	22	77.2	248.7	227	91.3

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	189			191			192.9		
Cause of Death	Malignant neoplasm of other and unspecified urinary organs			Malignant neoplasm of brain			Malignant neoplasm of nervous system, site unspecified		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.2			0.6			0.2		
25-29	0.3			2.6	2	76.9	0.6		
30-34	0.6	2	333.3	3.9	2	51.3	1.2		
35-39	2.1	0		6.7	3	44.8	1.8		
40-44	5.8	5	86.2	9.4	6	63.8	3.2	2	62.5
45-49	13.5	9	66.7	17.3	14	80.9	5.2	3	57.7
50-54	21.8	22	100.9	23.3	27	115.9	7.6	5	65.8
55-59	29.1	25	85.9	27.8	30	107.9	8.4	5	59.5
60-64	32.6	33	101.2	28.0	29	103.6	7.6	11	144.7
65-69	27.7	37	133.6	17.9	22	122.9	4.3	3	69.8
70-74	22.4	27	120.5	10.4	11	105.8	3.4	2	58.8
75-79	17.5	19	108.6	6.0	4	66.7	1.6	1	62.5
80-84	8.2	7	85.4	1.6	2	125.0	0.3	1	333.3
85+	3.4	4	117.6	0.3	0		0.1	0	
TOTAL	185.2	190	102.6	155.8	152	97.6	45.5	33	72.5

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	194.3			197.8			200.0		
Cause of Death	Malignant neoplasm of pituitary gland and craniopharyngeal duct			Secondary malignant neoplasm of liver, unspecified			Reticulum-cell sarcoma		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24							0.5		
25-29				0.1			1.0	1	100.0
30-34				0.3			1.4		
35-39	0.1			0.7			1.9	3	157.9
40-44	--	1		1.5	1	66.7	2.8	3	107.1
45-49	0.1	1	1,000.0	3.5	1	28.6	4.6	4	87.0
50-54				6.2	6	96.8	6.5	3	46.0
55-59	0.2	1	500.0	9.6	16	166.7	8.1	9	111.1
60-64	0.2			13.4	13	97.0	9.4	11	117.0
65-69	0.1			13.4	13	97.0	6.8	9	132.4
70-74				11.6	16	137.9	6.6	9	136.4
75-79	0.1			9.7	10	103.1	4.6	1	21.7
80-84				6.4	5	78.1	2.5	5	200.0
85+				2.7	3	111.1	1.0	1	100.0
TOTAL	0.8	3	375.0	79.1	84	106.2	57.7	59	102.3

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number / Cause of Death	200.1 Lymphosarcoma			201 Hodgkin's disease			203 Multiple myeloma		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.6			2.3	1	43.5			
25-29	0.8	2	250.0	5.3	2	37.7			
30-34	1.9	4	210.5	5.6	2	35.7			
35-39	2.1	3	142.9	5.6	2	35.7	0.6		
40-44	3.7	5	135.1	5.7	3	52.6	1.8	2	111.1
45-49	6.9	7	101.4	7.4	6	81.1	4.9	7	142.9
50-54	9.7	3	30.9	8.3	6	72.3	9.1	8	87.9
55-59	12.8	11	85.9	9.0	7	77.8	12.4	10	80.6
60-64	14.9	14	94.0	8.5	13	152.9	18.2	9	49.5
65-69	12.8	13	101.6	6.1	8	131.1	15.8	21	132.9
70-74	9.7	10	103.1	5.1	7	137.3	15.4	18	116.9
75-79	8.5	6	70.6	3.8	6	157.9	11.9	13	109.2
80-84	4.6	4	87.0	1.4	5	357.1	6.9	8	115.9
85+	1.8	1	55.6	0.5	1	200.0	2.6	3	115.4
TOTAL	90.8	83	91.4	74.6	69	92.5	99.7	99	99.3

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	204-207			207.0			200-203, 208, 209		
Cause of Death	Leukemia			Other and unspecified leukemia, acute			Other neoplasms of Lymphatic and hematopoietic tissues		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	3.4	3	88.2	0.6			4.5	3	66.7
25-29	5.2	6	115.4	0.7	1	142.9	8.5	6	70.6
30-34	5.5	3	54.5	0.9	0	---	9.8	8	81.6
35-39	8.3	7	84.3	1.1	0	---	13.1	10	76.3
40-44	12.3	12	97.6	1.6	1	62.5	20.7	16	77.3
45.49	16.4	19	115.9	2.1	2	95.2	31.7	27	85.2
50-54	22.7	16	70.5	2.2	1	45.5	45.8	33	72.1
55-59	34.1	38	111.4	3.4	4	117.5	60.8	43	70.7
60-64	37.7	21	55.7	3.8	4	105.3	67.6	51	75.4
65-69	39.5	35	88.6	4.5	2	44.4	57.7	57	98.8
70-74	41.9	47	112.2	4.1	5	122.0	51.3	49	95.5
75-79	37.5	39	104.0	3.3	7	212.1	41.3	36	87.2
80-84	24.1	24	99.6	1.9	3	157.9	22.1	30	135.7
85+	12.2	22	180.3	1.1	0	---	9.0	7	77.8
TOTAL	300.8	292	97.1	31.3	30	96.8	443.9	376	84.7

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	204.0			204.1			204.9		
Cause of Death	Lymphatic leukemia, acute			Lymphatic leukemia, chronic			Lymphatic leukemia, unspecified		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.9	3	333.3				0.1		
25-29	0.7						--		
30-34	0.8						0.1		
35-39	0.8	1	125.0	0.1			0.2		
40-44	0.9	2	222.2	0.6	1	166.7	0.3	2	666.7
45-49	0.8	1	125.0	1.6	4	250.0	0.6	0	
50-54	1.2	1	83.3	3.0	2	66.7	0.9	0	
55-59	1.8	5	277.8	6.4	3	46.9	1.6	5	312.5
60-64	2.0	2	100.0	8.0	6	75.0	2.6	1	38.5
65-69	2.1	2	95.2	8.5	8	94.1	2.8	2	71.4
70-74	1.9	2	105.3	8.7	10	114.9	2.8	2	71.4
75-79	2.0	1	50.0	8.6	10	116.3	3.0	3	100.0
80-84	1.5	2	133.3	5.6	5	89.3	2.0	3	150.0
85+	0.8	0		3.8	8	210.5	1.2	1	83.3
TOTAL	18.2	22	120.9	54.9	57	103.8	18.2	19	104.4

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	205.0			205.1			205.9		
Cause of Death	Myeloid leukemia, acute			Myeloid leukemia, chronic			Myeloid leukemia, unspecified		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	1.1			0.4					
25-29	2.0	4	200.0	1.0	1	100.0			
30-34	2.6	2	76.9	1.9	0		0.3		
35-39	2.6	3	115.4	1.1	2	181.8	0.2		
40-44	3.9	3	76.9	2.5	1	40.0	1.4	2	142.9
45-49	6.3	6	95.2	3.5	2	57.1	0.7	3	428.6
50-54	6.6	6	90.9	3.8	3	78.9	1.0	1	100.0
55-59	10.2	12	117.6	3.8	2	52.6	1.4	1	71.4
60-64	11.4	5	43.9	4.4	0		1.8	2	111.1
65-69	10.2	5	49.0	3.9	2	51.3	1.7	6	352.9
70-74	9.4	15	159.6	4.5	5	111.1	1.8	0	
75-79	8.8	9	102.3	4.1	2	48.8	2.1	2	95.2
80-84	4.5	3	66.7	2.9	3	103.4	1.4	1	71.4
85+	2.1	5	238.1	1.2	2	166.7	0.8	0	
TOTAL	81.7	78	95.5	38.3	25	65.3	14.6	18	123.3

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-Cio United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	206.0			206.1			206.9		
Cause of Death	Monocytic leukemia, acute			Monocytic leukemia, chronic			Monocytic leukemia, unspecified		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.2								
25-29	0.2								
30-34	0.2	1	500.0				0.1		
35-39	0.3	1	333.3				0.1		
40-44	0.7	0					0.1		
45-49	0.9	1	111.1				0.4		
50-54	1.3	0					0.5	1	200.0
55-59	2.1	3	142.9		1		0.2	0	
60-64	1.7	0					0.5	1	200.0
65-69	1.7	0		0.1			0.6	3	500.0
70-74	1.8	1	55.6		1		0.9	1	111.1
75-79	1.1	0					0.6		
80-84	0.8	1	125.0	0.1			0.5		
85+	0.5	0			1		0.2		
TOTAL	13.5	8	59.3	0.2	3	1,500.0	4.7	6	127.7

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	400, 401, 403			402			404		
Cause of Death	Hypertension			Hypertensive Heart Disease			Hypertensive heart and renal disease		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.2			0.2					
25-29	0.5			0.3					
30-34	0.6	1	166.7	0.2	1	500.0			
35-39	1.2	3	250.0	1.2			0.2		
40-44	2.3	2	87.0	2.2	2	90.9	0.5		
45-49	4.9	3	61.2	5.9	3	50.8	2.0	1	50.0
50-54	7.8	4	51.3	7.7	3	39.0	3.2	1	31.3
55-59	9.2	6	65.2	13.4	8	59.7	6.2	2	32.3
60-64	13.2	11	83.3	16.1	13	80.7	8.7	3	34.5
65-69	14.1	13	92.2	15.1	10	66.2	10.9	4	36.7
70-74	18.3	17	92.9	15.0	7	46.7	12.4	12	96.8
75-79	20.3	20	98.5	15.1	14	92.7	17.5	14	80.0
80-84	19.8	14	70.7	10.9	6	55.0	18.8	8	42.6
85+	16.5	15	90.9	8.3	4	48.2	17.6	11	62.5
TOTAL	128.9	109	84.6	111.6	71	63.6	98.0	56	57.1

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	390-448			390-398, 402, 404, 410-429			410-413		
Cause of Death	Major Cardiovascular Disease			Disease of Heart			Ischemic Heart Disease		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	8.2	9	109.8	5.3	5	94.3	1.5	2	133.3
25-29	23.9	23	96.2	15.8	16	101.3	7.8	10	128.2
30-34	59.4	39	65.7	46.0	30	65.2	32.5	19	58.5
35-39	167.5	104	62.1	141.2	86	60.9	118.0	75	63.6
40-44	441.6	276	62.5	308.0	237	61.1	341.8	209	61.1
45-49	1,012.7	627	61.9	901.4	543	60.2	813.7	488	60.0
50-54	1,643.7	1,133	68.9	1,455.4	1,003	68.9	1,329.9	927	69.7
55-59	2,370.7	1,515	63.9	2,061.9	1,339	64.9	1,891.9	1,227	64.9
60-64	3,042.6	2,054	67.5	2,570.5	1.746	67.9	2,376.0	1.606	67.6
65-69	2,943.8	2,312	78.5	2,383.9	1,888	79.2	2,218.9	1,743	78.6
70-74	3,043.2	2,390	78.5	2,338.9	1,877	80.3	2,187.0	1,756	80.3
75-79	3,067.5	2,628	85.7	2,254.1	1,963	87.1	2,107.8	1,819	86.3
80-84	2,340.2	2,241	95.8	1,628.8	1,626	99.8	1,525.0	1,541	101.0
85+	1,736.1	1,682	96.9	1,164.2	1,163	99.9	1,075.2	1,088	101.2
TOTAL	21,901.1	17,033	77.8	17,355.4	13.522	77.9	16,027.0	12,510	78.1

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	410			411			412		
Cause of Death	Acute myocardial infarction			Other acute and subacute forms of ischemic heart disease			Chronic ischemic heart disease		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	1.1	1	90.9				0.4	1	250.0
25-29	5.4	8	148.1	0.2			2.2	2	90.9
30-34	24.5	14	57.1	0.8	1	125.0	7.3	4	54.8
35-39	89.5	56	62.6	2.0	0		26.5	19	71.7
40-44	363.5	162	44.6	4.0	4	100.0	74.2	43	58.0
45-49	623.8	372	59.6	9.0	7	77.8	180.5	109	60.4
50-54	992.0	668	67.3	13.6	12	88.2	323.2	247	76.4
55-59	1,473.3	911	61.8	17.5	11	62.9	500.5	303	60.5
60-64	1,660.0	1,143	68.9	20.2	14	69.3	695.2	447	64.3
65-69	1,479.6	1,185	80.1	15.7	13	82.8	723.1	542	75.0
70-74	1,333.9	1,079	80.9	13.8	7	50.7	839.6	669	79.7
75-79	1,138.4	1,005	88.3	11.2	6	53.6	957.7	808	84.4
80-84	701.7	691	98.5	7.6	8	105.3	805.2	842	104.6
85+	395.4	369	93.3	5.3	7	132.1	674.3	712	105.6
TOTAL	10,282.1	7,664	74.5	120.9	90	74.4	5,809.9	4,748	81.7

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	420-423, 425-427, 429			430-438			430, 432, 435-438		
Cause of Death	All other forms of heart			Cerebrovascular disease			All other Cerebrovascular disease		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	2.1	2	95.2	2.0	4	200.0	1.3	3	230.8
25-29	4.5	1	22.2	6.4	4	62.5	4.5	3	66.7
30-34	7.3	7	95.9	10.7	5	46.7	7.2	3	41.7
35-39	10.9	9	82.6	20.5	11	53.7	12.5	8	64.0
40-44	23.6	10	42.4	41.9	28	66.8	25.5	15	58.8
45-49	44.3	30	67.7	82.5	65	78.8	44.0	44	100.0
50-54	63.8	44	69.0	141.5	98	69.3	71.1	44	61.9
55-59	86.5	59	68.2	226.9	124	54.7	108.5	67	61.8
60-64	98.5	71	72.3	334.7	227	67.8	157.9	115	72.8
65-69	87.2	75	86.0	400.3	300	74.9	196.4	149	75.9
70-74	84.0	66	78.6	520.0	376	72.3	259.5	209	80.5
75-79	77.9	77	98.8	607.2	498	82.0	316.6	253	79.9
80-84	61.1	55	90.0	528.0	467	88.5	284.8	242	85.0
85+	45.3	51	112.6	399.2	378	94.7	222.0	192	86.5
TOTAL	697.0	557	79.9	3,321.8	2,585	77.8	1,711.8	1,347	78.7

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	431			433			434		
Cause of Death	Cerebral hemorrhage			Cerebral Thrombosis			Cerebral embolism		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.8	1	125.0	0.1					
25-29	1.8	1	55.6	0.1					
30-34	2.9	1	34.5	0.5	1	200.0			
35-39	6.7	2	29.9	1.2	1	83.3			
40-44	13.4	10	74.6	3.0	3	100.0	0.3		
45-49	30.4	17	55.9	7.8	3	38.5	0.4	1	250.0
50-54	50.1	42	83.8	19.3	12	62.2	1.1	0	
55-59	74.8	34	45.5	22.0	23	104.6	1.5	0	
60-64	95.9	55	57.4	78.4	55	70.2	2.5	2	80.0
65-69	93.8	64	68.2	107.8	87	80.7	2.3	0	
70-74	101.6	65	64.0	155.6	101	64.9	3.1	1	32.3
75-79	100.4	80	79.7	188.6	164	87.0	2.5	2	80.0
80-84	77.0	65	84.4	164.1	160	97.5	2.0	0	
85+	59.3	44	74.2	126.6	140	110.6	1.3	2	153.9
TOTAL	708.9	481	67.9	875.1	750	85.7	17.0	8	47.1

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	470-474, 480-486			470-474			480-486		
Cause of death	Influenza and Pneumonia			Influenza			Pneumonia		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	4.0			0.2			3.9		
25-29	6.4	2	31.3	0.3			6.0	2	33.3
30-34	7.5	5	66.7	0.5	1	200.0	7.0	4	57.1
35-39	13.4	5	37.3	1.1			12.0	5	41.7
40-44	25.9	6	23.2	2.0			24.1	6	24.9
45-49	47.1	28	59.5	4.2	2	47.6	42.6	26	61.0
50-54	70.2	32	45.6	7.5	3	40.0	62.8	29	46.2
55-59	94.2	52	55.2	9.9	7	70.7	84.3	45	53.4
60-64	120.1	64	53.3	12.3	4	32.5	107.7	60	55.7
65-69	122.9	83	67.5	12.5	5	40.0	110.4	78	70.7
70-74	152.6	105	68.8	16.2	16	98.8	136.3	89	65.3
75-79	184.2	151	82.0	14.3	7	49.0	169.9	144	84.8
80-84	153.5	147	95.8	10.0	8	80.0	143.4	139	96.9
85+	149.4	123	82.3	9.6	11	114.6	129.8	112	86.3
TOTAL	1,151.4	803	69.7	100.6	64	63.6	1,040.2	739	71.0

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	440			441-448			466		
Cause of death	Arteriosclerosis			Other diseases of arteries, arterioles and capillaries			Acute Bronchitis and Bronchiolitis		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24				0.7					
25-29				1.3	3	230.8	0.2		
30-34	0.1			2.0	3	150.0	0.4		
35-39	0.1			4.6	4	87.0	0.3		
40-44	1.0	1	100.0	7.2	8	111.1	0.3	1	333.3
45-49	3.0	4	133.3	20.5	12	58.5	1.4	1	71.4
50-54	6.0	7	116.7	32.8	21	64.0	1.1	0	
55-59	13.2	9	68.2	59.3	37	62.4	1.8	2	111.1
60-64	25.4	14	55.1	98.9	56	56.6	1.7	0	
65-69	36.0	32	88.9	109.5	79	72.1	2.0	4	200.0
70-74	57.2	45	78.7	108.7	75	69.0	2.4	2	83.0
75-79	87.7	73	83.2	97.1	73	75.2	2.9	0	
80-84	102.5	82	80.0	61.1	52	85.1	1.2	1	83.0
85+	122.4	103	84.2	33.6	23	68.5	1.2	2	166.7
TOTAL	454.6	370	81.4	637.3	446	70.0	16.9	13	76.9

Table 2 (Continued)
Mortality be Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number / Cause of Death	490-493 Bronchitis, Emphysema and Asthma			490, 491 Chronic and Unqualified Bronchitis			492 Emphysema		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.5			0.2			0.1		
25-29	1.2	1	83.3	0.3	1	333.3	0.2		
30-34	1.9	1	52.6	0,5			0,8		
35-39	3.1	0		0,8	0		1.4		
40-44	9.9	3	30.3	2.3	0		5.8	3	51.7
45-49	24.1	14	58.1	4,9	1	20.4	16.6	12	72.3
50-54	56.0	15	26,8	10.1	2	19.8	42.6	11	25.8
55-59	106.9	63	58.9	16.4	14	85.4	85.6	43	50.2
60-64	173.4	108	62.3	28.5	18	63.2	139.0	85	61.2
65-69	183.8	141	76.7	30.2	22	72.8	149.2	117	78.4
70-74	188.0	159	84.6	31.0	26	83.9	154.1	130	84.4
75-79	153.1	166	108.4	25.3	24	94.9	124.5	139	111.6
80-84	82.1	81	98.7	16.3	8	49.1	63.8	71	111.3
85+	33.6	46	136.9	7.8	10	128.2	25.1	36	143.4
TOTAL	1,017.6	798	78.4	174.6	126	72.2	808.8	647	80.0

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	493			531-533			571		
Cause of Death	Asthma			Peptic Ulcer			Cirrhosis of Liver		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.3			0.3	2	666.7	0.4		
25-29	0.6			1.0	0		4.0	2	50.0
30-34	0.7	1	142.9	2.0	1	50.0	13.5	6	44.4
35-39	1.1	0		3.4	0		35.0	11	31.4
40-44	1.6	0		7.7	2	26.0	79.2	26	32.8
45-49	2.6	1	38.5	14.3	8	55.9	136.5	59	43.2
50-54	3.3	2	60.6	22.2	12	54.1	165.3	81	49.0
55-59	5.0	6	120.0	29.5	18	61.0	175.5	84	47.9
60-64	5.7	5	87.7	35.4	28	79.1	157.0	76	48.4
65-69	4.5	2	44.4	35.0	19	54.3	93.5	61	65.2
70-74	4.0	3	75.0	28.7	19	66.2	49.2	38	77.2
75-79	3.4	3	88.2	27.6	16	58.0	28.6	28	97.9
80-84	2.0	2	100.0	19.7	23	116.8	10.5	12	114.3
85+	0.7	0		10.8	10	92.6	4.3	7	162.8
TOTAL	35.5	25	70.4	237.6	158	66.5	952.5	491	51.5

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	574-575			580-584			590		
Cause of Death	Cholelithiasis, cholecystitis and cholangitis			Nephritis and nephrosis			Infections of kidney		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24				1.4	1	71.4	0.2		
25-29	0.1			2.7	0		0.2		
30-34	0.4			2.6	2	76.9	0.7		
35-39	0.6			4.5	0		1.3		
40-44	0.6			5.5	3	54.5	1.9		
45-49	2.2	4	181.8	10.8	2	18.5	2.9	2	69.0
50-54	3.1	6	193.5	14.9	8	53.7	4.8	1	20.8
55-59	5.1	2	39.2	19.4	10	51.5	8.2	4	48.8
60-64	7.6	5	65.8	21.3	19	89.2	10.2	4	39.2
65-69	8.6	10	116.3	18.0	9	50.0	13.5	10	74.1
70-74	11.8	12	101.7	17.4	12	69.0	17.8	11	61.8
75-79	13.0	14	107.7	19.0	13	68.4	22.3	22	98.7
80-84	9.6	10	104.2	14.0	5	35.7	18.5	18	97.3
85+	5.9	6	101.7	9.8	17	173.5	15.2	9	59.2
TOTAL	68.6	69	100.6	161.3	101	62.6	117.7	81	68.8

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	600			E800-E949			E810-E823		
Cause of Death	Hyperplasia of prostate			Accidents			Motor Vehicle Accidents		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24				178.8	269	150.4	127.3	171	134.3
25-29				204.2	219	107.2	128.8	128	99.4
30-34				180.6	225	124.6	103.2	107	103.7
35-39				172.6	176	102.0	95.1	81	85.2
40-44				196.5	195	99.2	96.3	71	73.7
45-49	0.2			24.4	243	101.1	112.8	97	86.0
50-54	0.5			229.2	239	104.3	106.1	103	97.1
55-59	1.3			221.6	216	97.5	94.4	89	94.3
60-64	3.3	2	60.6	195.6	183	93.6	78.8	77	97.7
65-69	7.1	1	14.1	136.1	118	86.7	56.1	46	82.0
70-74	9.9	4	40.4	112.6	98	87.0	43.8	30	68.5
75-79	14.9	6	40.3	106.2	95	89.5	37.6	39	103.7
80-84	16.1	4	24.8	80.3	77	95.9	22.9	23	100.4
85+	14.9	9	60.4	62.0	53	85.5	8.1	14	172.8
TOTAL	68.2	26	38.1	2,316.7	2,406	103.9	1,111.3	1,076	96.8

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number	E800-E807, E825-E949			E950-E959			E960-E978		
Cause of Death	All other accidents			Suicide			Homicide		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	51.6	98	189.9	27.6	37	134.1	17.7	22	124.3
25-29	75.3	91	120.8	47.3	35	74.0	31.6	34	107.6
30-34	77.4	118	152.5	50.0	46	92.0	31.3	34	108.6
35-39	77.4	95	122.7	54.8	45	82.1	32.3	18	55.7
40-44	100.2	124	123.8	72.1	58	80.4	32.3	18	55.7
45-49	127.6	146	114.4	98.3	77	78.3	30.8	24	77.9
50-54	123.1	136	110.5	92.0	70	76.1	23.5	20	85.1
55-59	127.1	127	99.9	86.8	69	79.5	21.7	15	69.1
60-64	117.6	106	90.1	76.0	52	68.4	14.3	9	62.9
65-69	80.0	72	90.0	49.6	40	80.6	7.3	4	54.8
70-74	68.8	68	98.8	33.2	22	66.3	4.1	6	146.3
75-79	68.6	56	81.6	24.8	24	96.8	2.2	1	45.5
80-84	57.5	54	93.9	15.6	16	102.6	1.4	3	214.3
85+	53.7	39	72.6	6.4	9	140.6	0.7	0	---
TOTAL	1205.9	1330	110.3	734.5	600	81.7	251.2	208	82.8

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number / Cause of Death	E881 Fall on or from ladders or scaffolding			E882 Fall from or out of building or other structure			E884 Other fall from one level to another		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.25	4	1600.0	0.95	2	210.5	0.63	2	317.5
25-29	0.68	3	441.2	1.76	3	170.5	1.10	8	727.3
30-34	0.87	7	804.6	1.51	5	331.1	1.06	4	377.4
35-39	0.93	3	322.6	1.52	3	197.4	1.62	4	246.9
40-44	1.38	7	507.2	2.02	9	445.5	1.44	7	486.1
45-49	2.23	8	358.7	2.23	8	358.7	2.59	5	193.1
50-54	2.31	6	259.7	2.48	14	564.5	2.86	9	314.7
55-59	3.14	5	159.2	2.75	4	145.5	2.81	9	320.3
60-64	2.89	11	380.6	2.49	3	120.5	2.22	5	225.2
65-69	1.93	1	51.8	1.67	2	119.8	2.26	1	44.2
70-74	1.63	0	---	1.30	2	153.8	1.61	2	124.2
75-79	1.44	0	---	1.18	2	169.5	2.44	2	82.0
80-84	0.50	0	---	0.63	1	158.7	2.19	2	91.3
85+	0.32	0	---	0.37	0	---	1.11	0	---
TOTAL	20.50	55	272.3	22.86	58	253.7	25.94	60	231.3

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number / Cause of Death	E887 Other and unspecified fall			E916 Struck accidentally by falling object			E917 Striking against or struck accidentally by objects		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.73	3	411.0	1.92	11	572.9	1.03	1	97.1
25-29	1.24	2	161.3	3.32	7	210.8	1.85	4	216.2
30-34	2.17	1	46.1	4.53	3	66.2	1.49	2	134.2
35-39	2.70	4	148.1	3.49	3	86.0	1.96	8	408.2
40-44	5.09	2	39.3	5.56	5	89.9	2.61	4	153.3
45-49	8.56	12	140.2	5.76	8	138.9	3.43	3	87.5
50-54	10.60	4	37.7	5.79	8	138.2	3.42	7	204.7
55-59	12.10	14	115.7	4.44	5	112.6	3.53	3	85.0
60-64	15.18	9	59.3	2.35	4	170.2	1.97	3	152.3
65-69	13.94	7	50.2	1.68	1	59.5	1.69	2	118.3
70-74	16.44	14	85.2	0.77	2	259.7	1.02	0	---
75-79	22.59	23	101.8	0.59	0	---	0.92	0	--
80-84	27.29	26	95.3	0.15	0	---	1.45	1	69.0
85+	30.55	21	68.7	0.06	0	---	1.31	0	---
TOTAL	169.18	142	83.9	40.41	57	141.1	27.68	38	137.3

Table 2 (Continued)
Mortality by Selected Causes of Death
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

ICD number / Cause of Death	E918 Caught accidentally in or between objects			E925 Accident caused by electric current		
Age	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
20-24	0.88	3	340.9	2.03	7	344.8
25-29	1.42	3	211.3	2.90	2	69.0
30-34	1.81	1	55.2	2.83	13	459.4
35-39	1.64	2	122.0	3.09	9	291.3
40-44	2.02	7	346.5	2.09	2	95.7
45-49	2.88	3	104.2	2.39	1	41.8
50-54	2.12	3	141.5	1.50	2	133.3
55-59	2.34			1.20	2	166.7
60-64	1.81			1.02	2	196.1
65-69	0.91			0.23		
70-74	0.38			0.33		
75-79	0.32			0.14		
80-84	0.07			0.07		
85+	0.02			0.01		
TOTAL	18.62	22	118.2	19.83	40	201.7

Table 3

Mortality by Trade
AFL-CIO United Brotherhood of Carpenters and Joiners of America
1969-1970 and 1972-1973

Trade	Deaths due to all causes			Deaths due to Cancer (ICD number 140-209)		
	Expected	Observed	SMR	Expected	Observed	SMR
Construction workers	30,866.6	25,659	83.1	5,520.6	5,635	102.1
Acoustical Applicators	11.7	6	52.6	1.8	3	166.7
Floor Layers	305.0	211	69.2	55.2	51	92.4
Floor surfacers	25.2	23	91.3	4.8	5	104.2
Insulators	38.8	21	54.1	7.0	11	157.1
Maintenance	28.4	27	95.1	5.4	5	92.6
Residential	26.8	27	100.7	4.6	2	43.5
Millwright	799.4	698	87.3	145.0	155	106.9
Pile drivers	671.4	695	103.5	120.6	153	126.9
Marine carpenters	45.4	31	68.7	7.8	9	115.4
Boat builders	60.6	44	72.6	11.2	14	125.0
Navy Yard	35.4	17	48.0	6.8	2	29.4
Ship carpenters	503.2	417	82.9	90.8	99	109.0
Millmen	2,293.6	1,733	75.6	412.0	357	86.7
Boxmakers	152.8	104	68.1	28.0	23	82.1
Cabinetmakers	601.6	415	69.0	107.4	89	82.9
Lumber handlers	2.4	3	125.0	0.4	1	250.0
Stair builders	32.0	24	75.0	5.6	3	53.6
Lumber sawmill workers	2,306.4	1,617	70.1	430.2	342	79.5
Plywood	227.2	143	62.9	42.6	39	91.5
Shingle weavers	76.8	75	97.7	13.0	13	100.0
Furniture	504.2	330	65.5	94.6	71	75.1
Miscellaneous	343.6	195	56.8	64.2	49	76.3
Aircraft	139.8	51	36.5	27.8	11	39.6
Pencil	5.4	5	92.6	1.0	2	200.0
Piano	30.6	14	45.8	6.0	4	66.7
Prefabricated	20.2	6	29.7	3.6	1	55.6

Table 4

Pile Drivers Locals Mortality
AFL-CIO United Brotherhood of Carpenters and Joiners of America
1969-1970 and 1972-1973

Cause of Death	ICD	Deaths Expected	Deaths Observed	SMR
All Causes	All	671.4	695	103.5
All Cancers	140-209	120.4	153	127.1
Lung cancer	162.1	38.8	53	136.6
Gastrointestinal cancer	150-159	34.6	40	115.6
Stomach	151	6.8	9	132.3
Pancreas	157	7.0	11	157.1
Large intestine	153	11.2	13	116.1
All other cancers		47.0	60	127.7

Table 5
Mortality by State
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

State	Deaths due to all causes			Deaths due to Cancer (ICD number 140-209)			Deaths due to Lung Cancer (ICD number 162.1)		
	Expected	Observed	SMR	Expected	Observed	SMR	Expected	Observed	SMR
Alabama	326.4	254	77.8	61.4	57	92.8	18.8	24	127.7
Arizona	324.0	197	60.8	60.6	44	72.6	19.2	18	93.8
Arkansas	189.0	174	92.1	35.6	49	137.6	11.0	14	127.3
California	6,609.4	5,157	78.0	1,196.4	1,167	97.5	362.4	420	115.9
Colorado	349.2	239	68.4	63.4	38	59.9	19.2	12	62.5
Connecticut	531.6	427	80.3	93.6	104	111.1	27.0	40	148.1
Delaware	71.2	75	105.3	13.4	16	119.4	4.2	8	190.5
District of Columbia	321.8	345	107.2	57.0	77	135.1	16.6	25	150.6
Florida	1,138.8	965	84.7	207.8	248	119.3	64.2	106	165.1
Georgia	341.2	313	91.7	64.4	54	83.9	20.0	25	125.0
Hawaii	173.6	57	32.8	33.8	16	47.3	11.6	4	34.5
Idaho	169.4	85	50.2	29.8	23	77.2	9.4	5	67.6
Illinois	3,108.0	2,771	89.2	535.0	559	104.5	153.6	196	127.6
Indiana	899.8	728	80.9	162.4	145	89.3	49.6	50	100.8
Iowa	352.2	345	98.0	61.2	66	107.8	17.8	18	101.1
Kansas	255.2	228	89.3	46.0	51	110.9	13.8	22	159.4
Kentucky	386.4	333	86.2	71.6	73	102.0	22.4	21	93.8
Louisiana	528.0	469	88.8	98.8	95	96.2	31.6	47	148.7
Maine	91.2	82	89.9	17.2	20	116.3	5.2	11	211.5
Maryland	227.4	216	95.0	41.6	46	110.6	12.2	13	106.6
Massachusetts	1,030.8	884	85.8	175.8	197	112.1	49.6	49	98.8
Michigan	1,373.0	1,104	80.4	243.8	242	99.3	72.4	78	107.7
Minnesota	966.6	671	69.4	169.0	146	86.4	49.0	45	91.8
Mississippi	233.4	223	95.5	43.6	54	123.9	13.8	19	137.7
Missouri	1,118.6	899	80.4	202.0	193	95.5	60.8	80	131.6

Table 5 (Continued)
Mortality by State
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

State	Deaths due to all causes			Deaths due to Cancer (ICD number 140-209)			Deaths due to Lung Cancer (ICD number 162.1)		
	Expected	Observed	SMR	Expected	Observed	SMR	Expected	Observed	SMR
Montana	279.8	218	77.9	51.6	51	98.8	16.0	14	87.5
Nebraska	153.4	122	79.5	27.8	29	104.3	8.4	10	119.0
Nevada	154.4	118	76.4	28.8	33	114.6	9.0	18	200.0
New Hampshire	72.6	79	108.8	13.0	20	153.8	4.0	6	150.0
New Jersey	1,050.2	903	86.0	182.0	201	110.4	51.4	62	120.0
New Mexico	126.8	77	60.7	23.4	20	85.5	7.6	6	78.9
New York	4,027.4	3,282	81.5	707.4	737	104.2	204.0	244	119.6
North Carolina	85.4	66	77.3	15.6	13	83.3	5.0	5	100.0
North Dakota	45.4	41	90.3	7.8	7	89.7	2.4	3	125.0
Ohio	1,621.6	1,423	87.8	286.6	325	113.4	84.8	113	133.0
Oklahoma	275.0	219	79.6	50.0	53	106.0	15.0	17	113.3
Oregon	1,404.4	1,086	77.3	258.8	268	103.6	80.2	72	89.8
Pennsylvania	1,679.4	1,430	85.1	302.4	279	92.3	90.6	85	93.8
Rhode Island	221.8	175	78.9	40.0	46	115.0	11.6	14	120.7
South Carolina	61.2	44	71.9	11.6	8	69.0	3.4	5	147.1
South Dakota	42.8	35	81.8	7.4	6	81.1	2.2	2	90.9
Tennessee	529.8	426	80.4	98.6	84	85.2	30.6	31	101.3
Texas	1,188.2	1,053	88.6	218.6	253	115.7	66.8	110	164.7
Utah	141.0	125	88.7	26.2	26	99.2	7.8	9	115.4
Vermont	32.8	30	91.5	6.0	5	83.3	1.8	2	111.1
Virginia	269.0	265	98.5	51.0	65	127.5	16.2	29	179.0
Washington	2,049.4	1,698	82.9	372.0	336	90.3	111.4	105	94.3
West Virginia	215.4	167	77.5	39.8	35	87.9	12.2	12	98.4
Wisconsin	1,105.6	849	76.8	196.4	189	96.2	58.2	49	84.2
Wyoming	51.0	48	94.1	9.0	10	111.1	2.4	4	166.7

Table 6

Standardized Mortality Ratios for Selected Cancers
AFL-CIO United Brotherhood of Carpenters and Joiners of America
1969-1970 and 1972-1973
New York City Locals and Rest of State

Cause of Death	New York City			Rest of New York State		
	Deaths Expected	Deaths Observed	SMR	Deaths Expected	Deaths Observed	SMR
All cancers (140-209)	365.8	402	109.9	341.6	335	98.1
Lung Cancer (162,1)	111.4	128	114.9	101.2	118	116,6
Stomach Cancer (151.9)	21.4	34	158.9	18,8	24	127.7
Cancer of Urinary Bladder (188)	13.8	21	152,1	12.0	10	83.3
Cancer of Colon (153)	36,6	40	109.3	31.6	31	98.0
Leukemia-lymphoma group (200-209)	34.4	40	116.3	33.2	30	90,4
All other cancers	148.2	139	93.8	196.8	151	76.7

Figure 1
Percent of Deaths due to Cancer
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973
U.S. white males, 1968

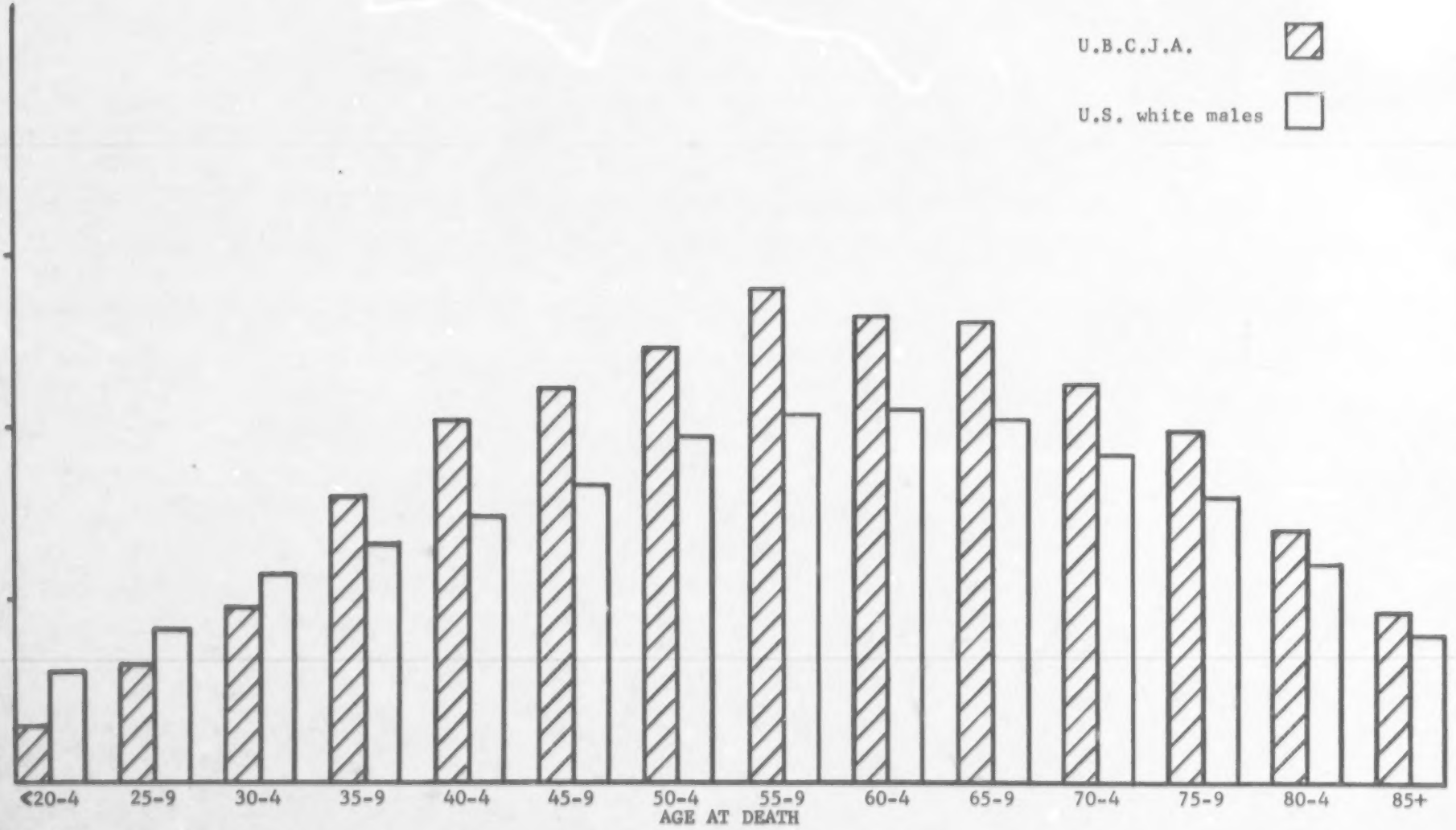

Figure 2
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973
SMRs by age for all causes and cancer

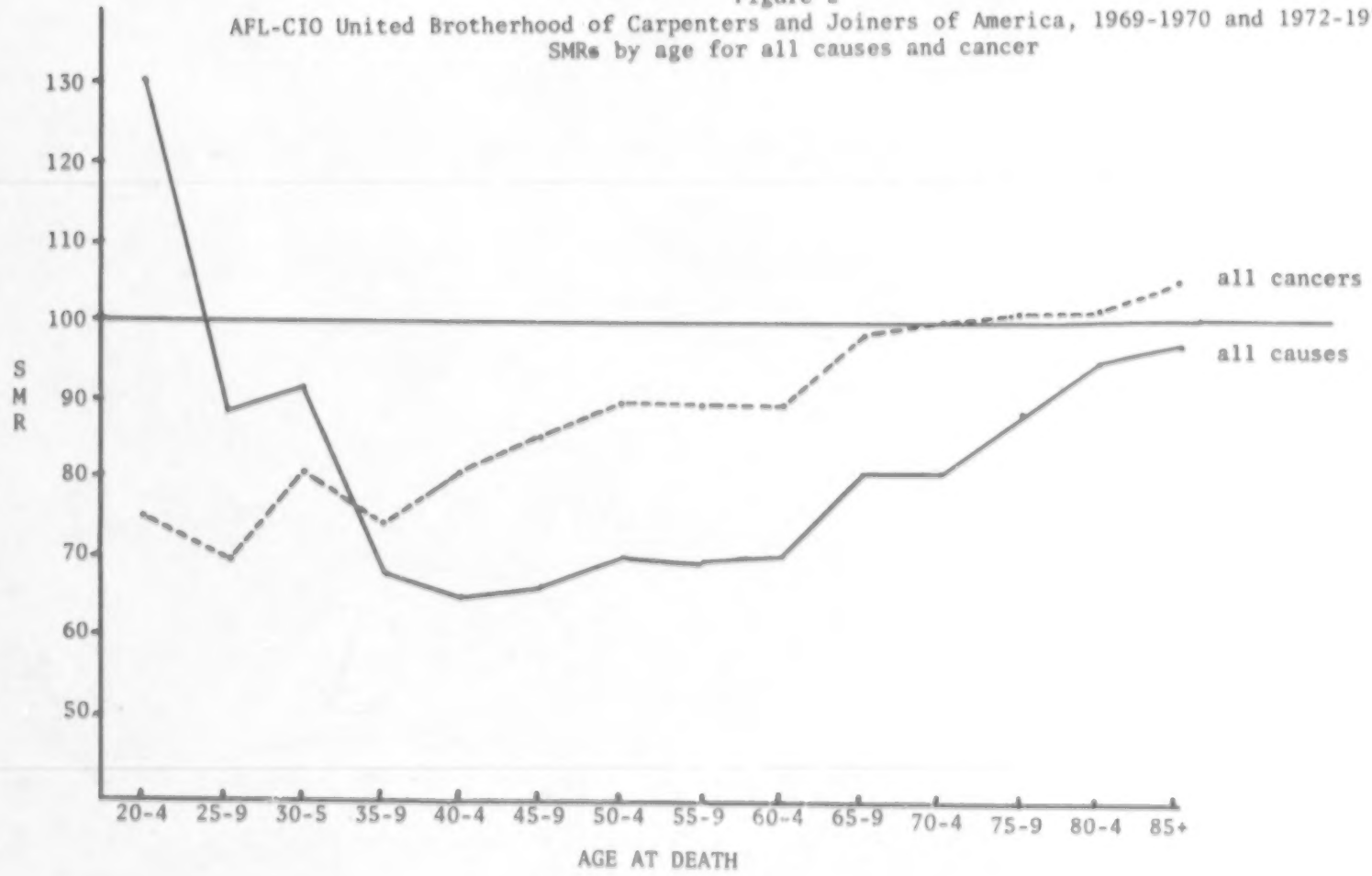

Figure 3
Lung Cancer Mortality
AFL-CIO United Brotherhood of Carpenters and Joiners of America, 1969-1970 and 1972-1973

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